

TITLE: METHOD FOR MAINTAINING SOLDER
THICKNESS IN FLIPCHIP ATTACH
PACKAGING PROCESSES
INVENTORS: Consuelo N. Tangpuz
DOCKET NO.: 11948.26

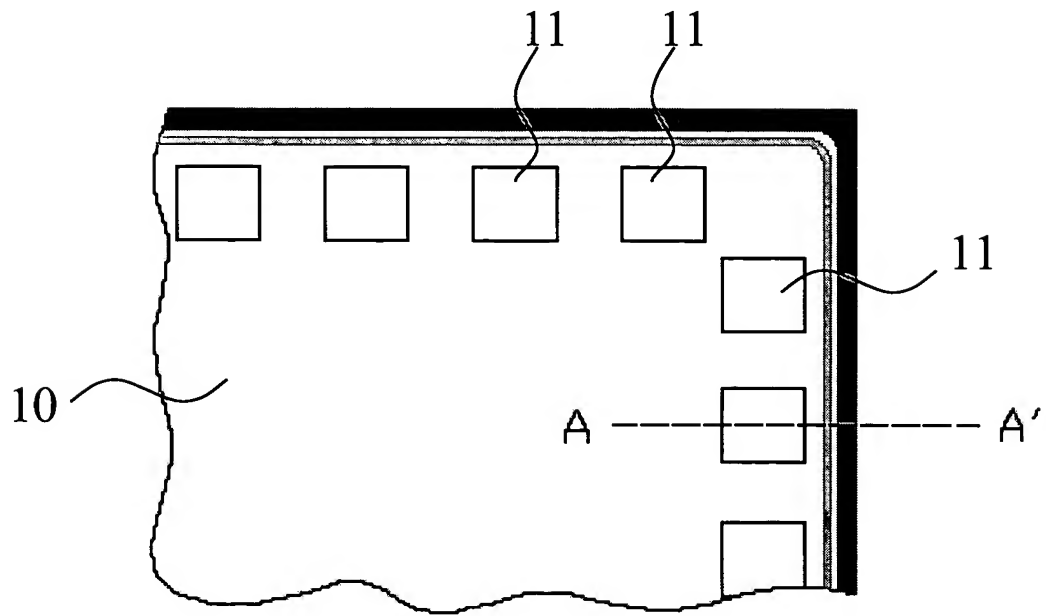


FIG. 1

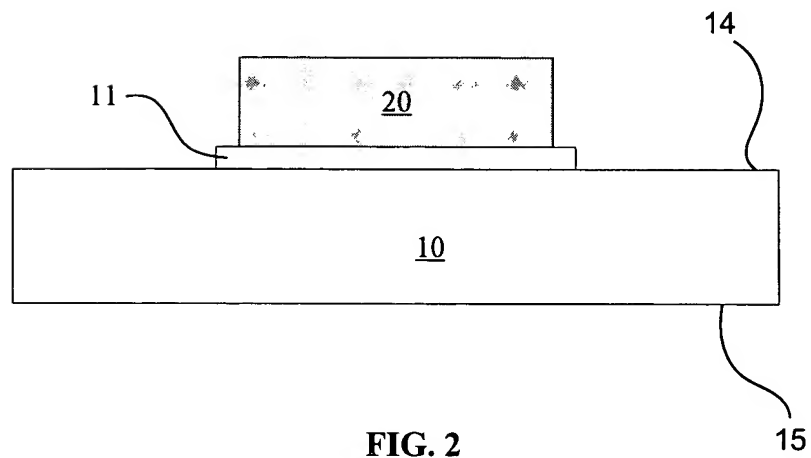


FIG. 2

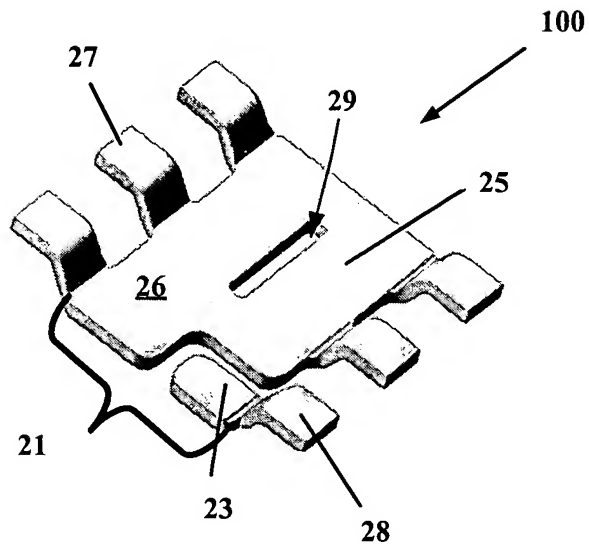


FIG. 3

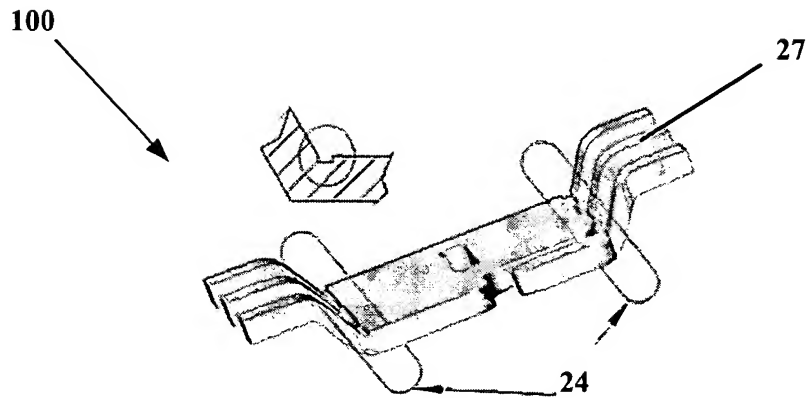


FIG. 4

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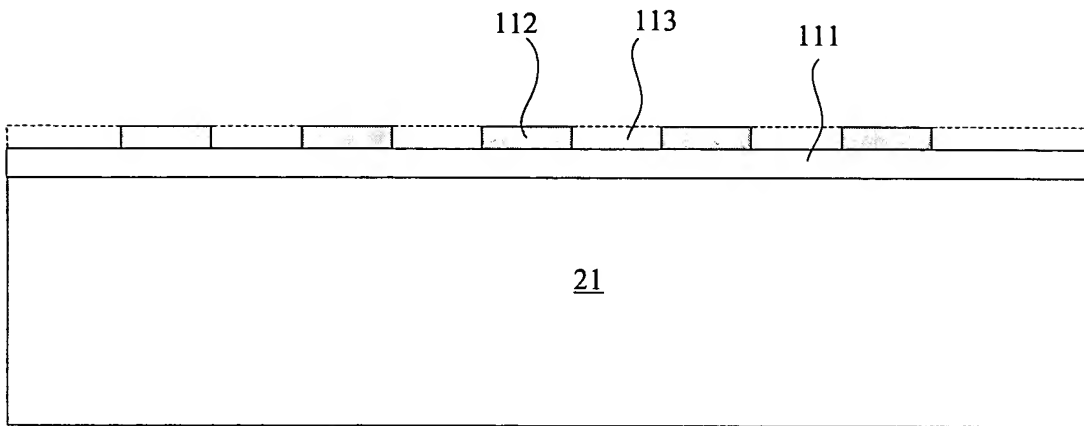


FIG. 5

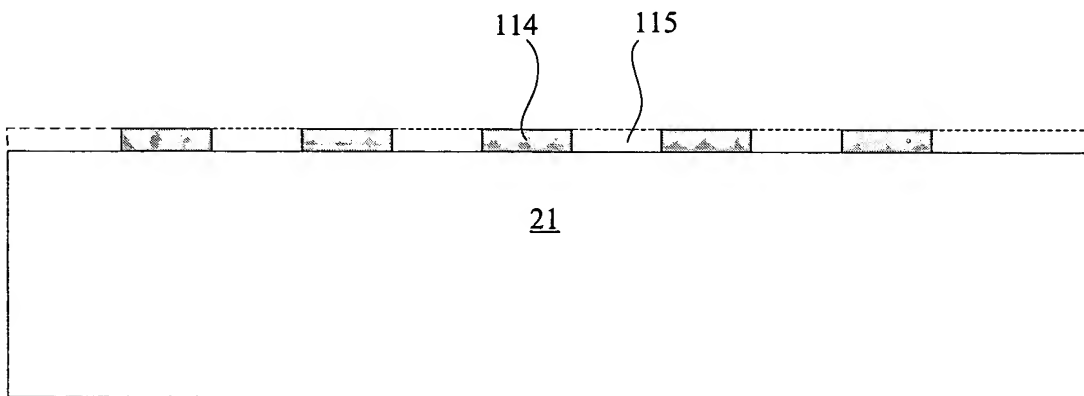
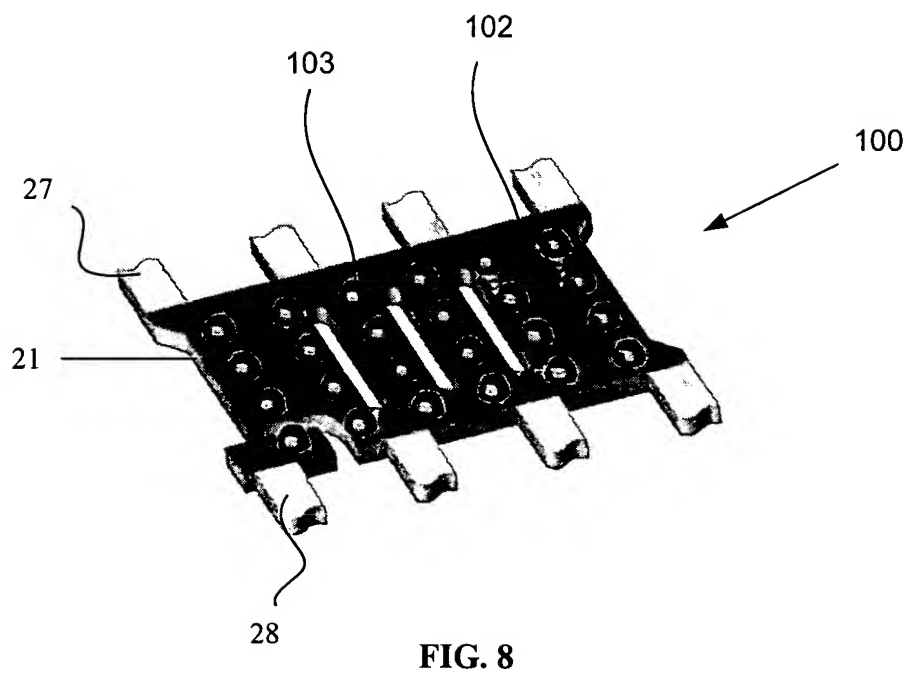
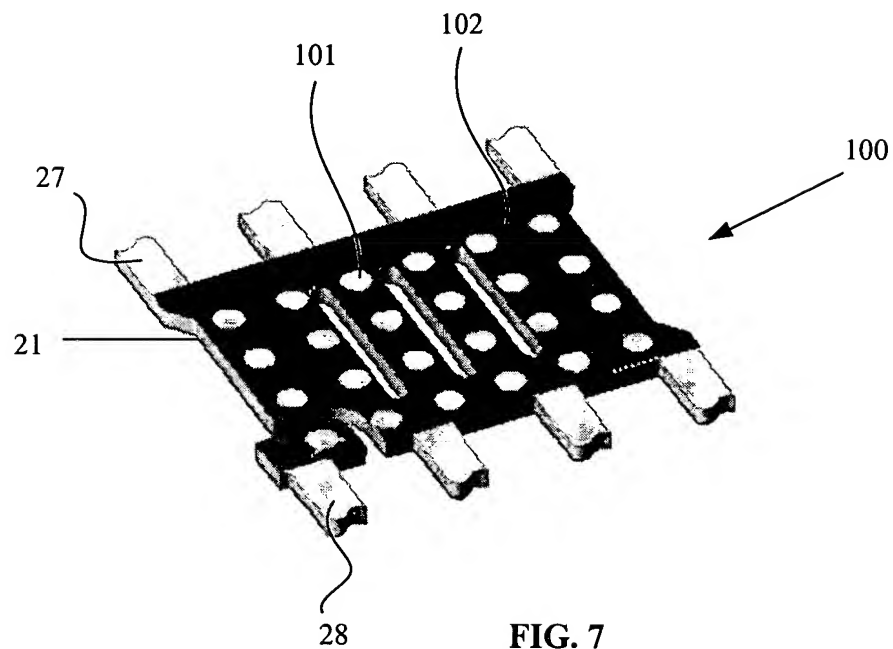


FIG. 6

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PRIORITY NO.: 11948.26



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INVENTORS: Consuelo N. Tangpuz
DRAWING NO.: 11948.26

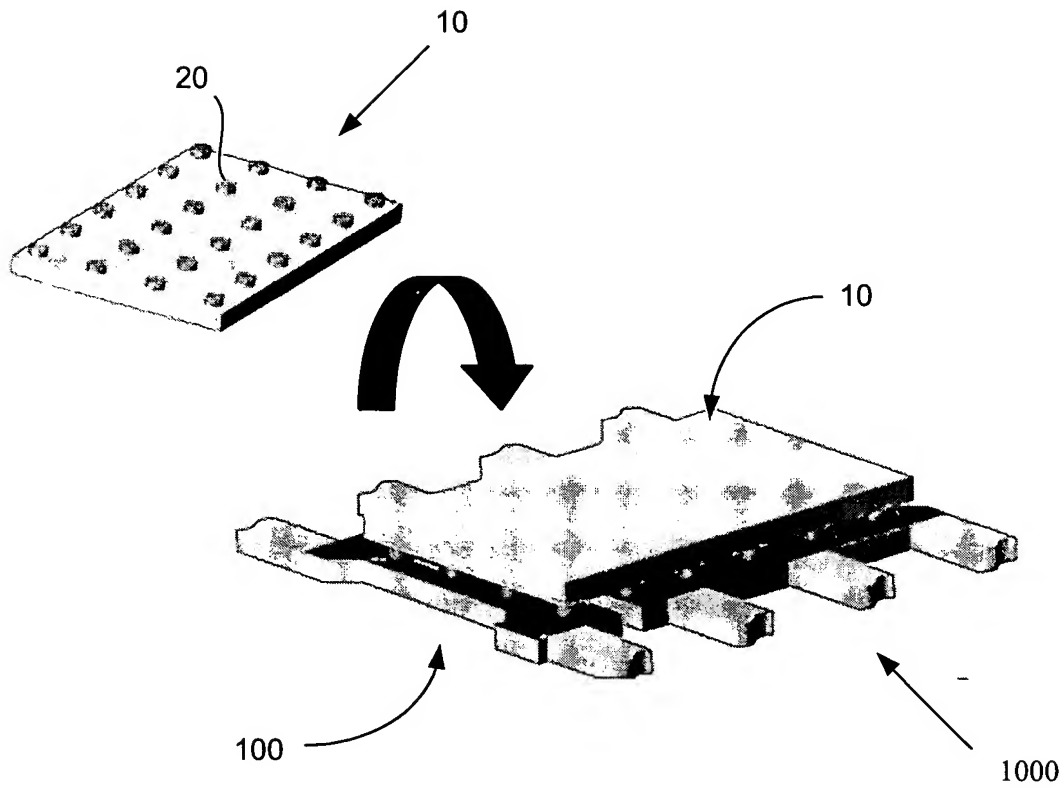


FIG. 9

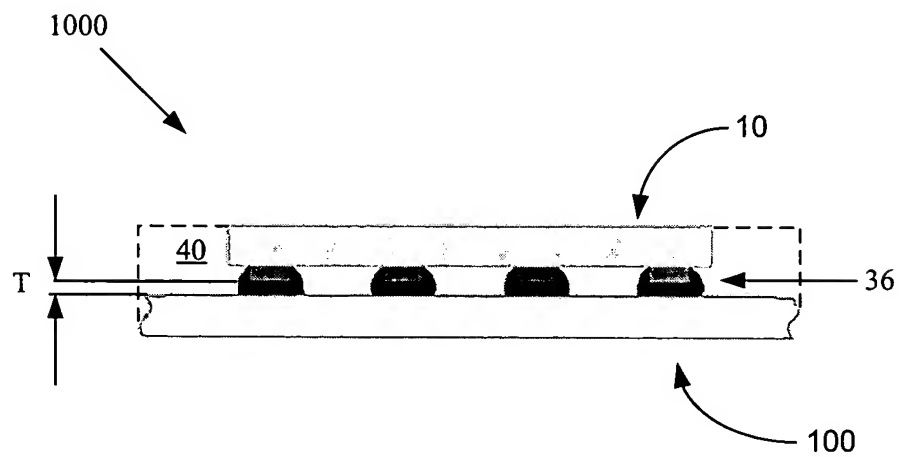


FIG. 10

SELECTIVE PLATING LEADFRAME

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FULLY SOLDERABLE LEADFRAME PAD

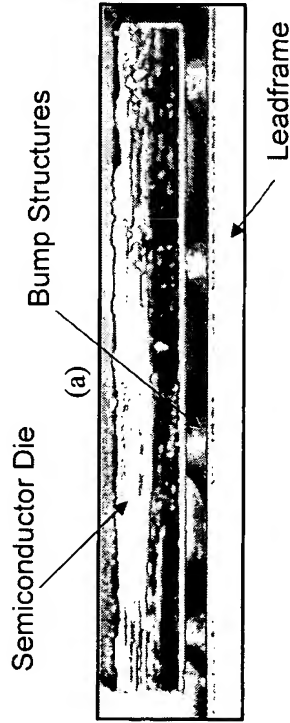


Fig. (a) is a photo of attached die with metal stud in a fully solderable leadframe pad.

Semiconductor Die (c) Metal Stud

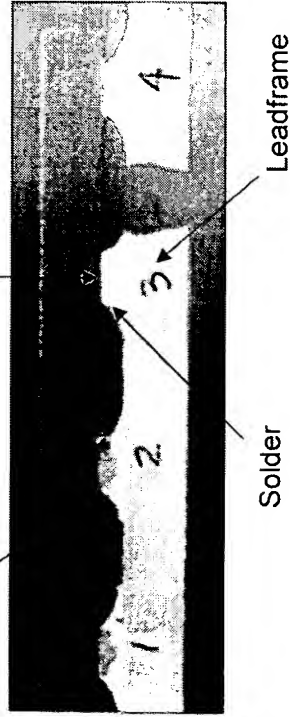


Fig. (c) is a SEM photo of cross-sectioned die with metal stud attached in a fully solderable leadframe pad. The solder spreads widely in the pad and the solder thickness between metal stud and leadframe is thin.

SELECTIVE SOLDERABLE LEADFRAME PAD

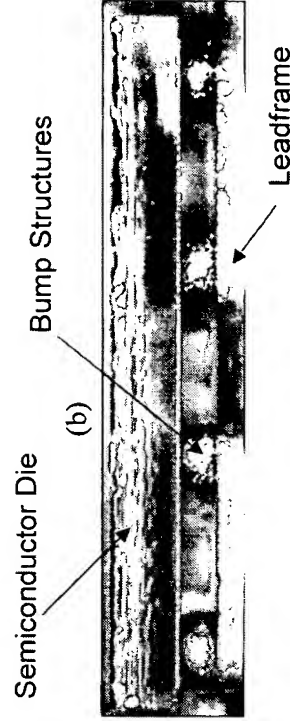


Fig. (b) is a photo of attached die with metal stud in a selective solderable area of leadframe pad.

Semiconductor Die (d) Metal Stud



Fig. (d) is a SEM photo of cross-sectioned die with metal stud attached in a selective solderable leadframe pad. The solder is limited to a certain area of the leadframe and the solder thickness between metal stud and leadframe is thick.

SELECTIVE PLATING LEADFRAME

CROSS-SECTION (SELECTIVE PLATING FRAME)

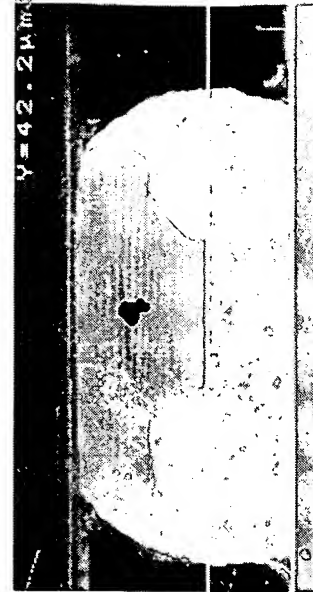
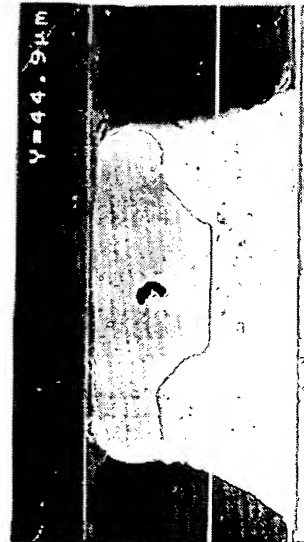
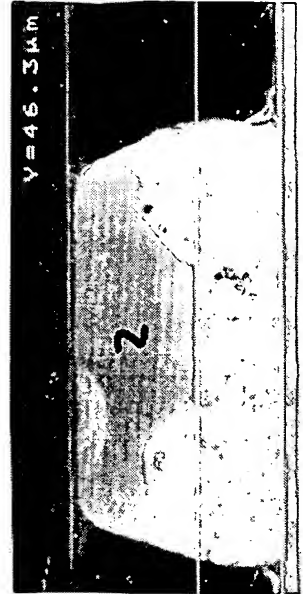
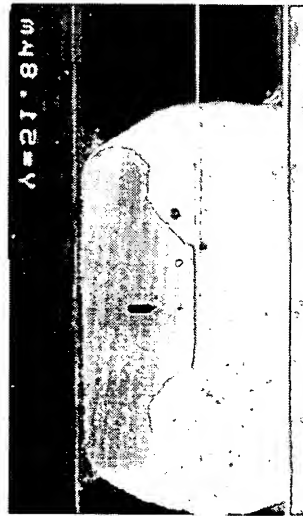
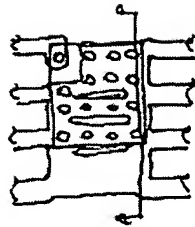
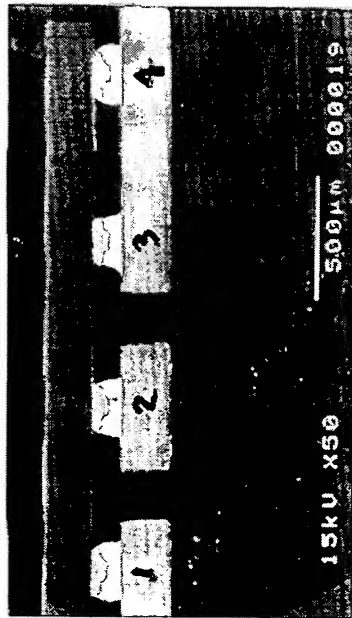


FIG. 12

TITLE: METHOD FOR MAINTAINING SOLDER THICKNESS IN FLIPCHIP ATTACH PACKAGING PROCESS

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SELECTIVE PLATING LEADFRAME

CROSS-SECTION (NON - SELECTIVE PLATING FRAME)

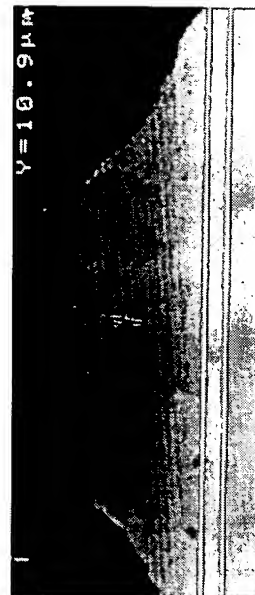
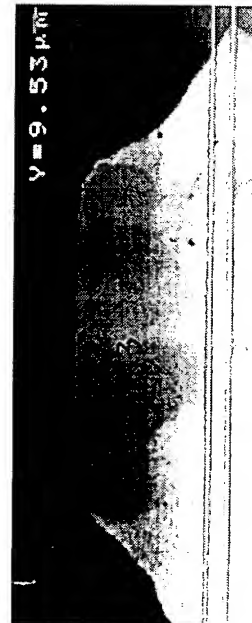
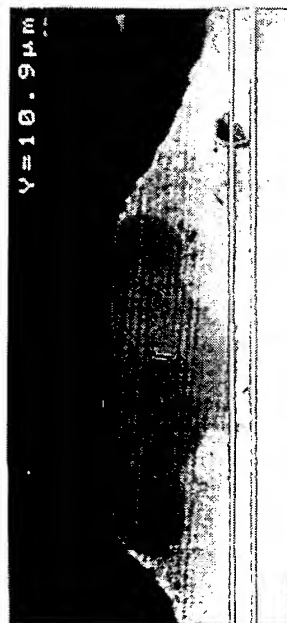
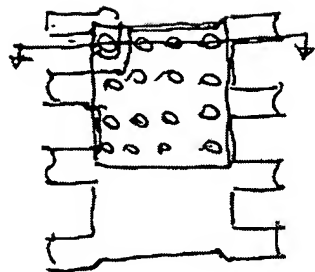
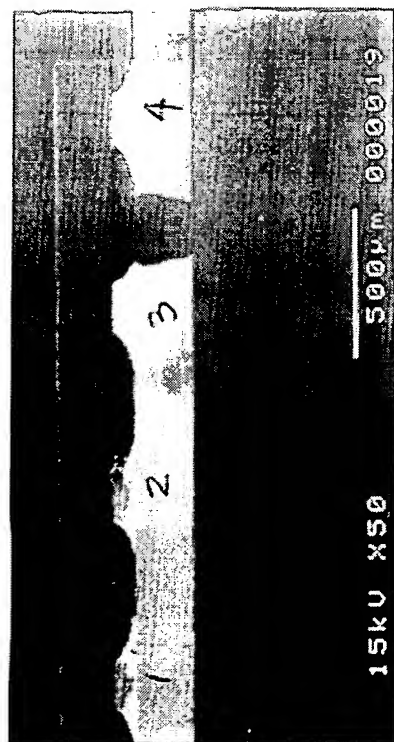


FIG. 13

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